

R E M A R K S

This Amendment is responsive to the Office Action mailed March 3, 1995, in which claims 1-40 were rejected. With this response, claims 1, 2, 4, 6, 8, 13, 16, 18, 25, 26, 28, 29, 33 and 34 have been amended, and claim 41 has been added. Claims 1-41 remain in the application and are presented for consideration and allowance.

The Examiner objected to the drawings on various bases. In response, Applicant has submitted with this Amendment proposed drawing corrections. This proposal includes an enclosed separate letter to the draftsman in accordance with MPEP §608.02(r); and a print or pen and ink sketches showing changes in red ink in accordance with MPEP §608.02(v). Approval of these drawing corrections is requested. New formal drawings will be submitted on approval of additions noted on the enclosures. Applicant specifically addresses each of the Examiner's objections in the following paragraphs.

The Examiner objected to the drawings because they do not include certain reference signs mentioned in the description. Specifically, the Examiner stated:

The following reference lines are not included in the drawing:

Numeral 24, the "force transmitting means/sample holder",
Page 23, line 6, 8, 11, 22, and 25,
Page 24, lines 2 and 6,
Page 25, lines 1 and 8, and
Page 28, line 7. Correction is required".

In response, Applicant has changed drawing Fig. 1, element 27 (which was mislabeled), to element 24. With this correction, Applicant believes the above objection to the drawings has been

A

overcome and should be withdrawn.

The Examiner objected to the drawings under 37 C.F.R. §1.83(a), stating:

The drawings must show every feature of the invention specified in the claims. Therefore, the following features must be shown or the features cancelled from the claims.

Claims 2 and 14: The "force sensor mounted to the fixed base".

Claims 3 and 15: The "probe mounted force sensor" and the "sample mounted to the scanning head".

Claims 4 and 16: The "probe mounted on the sensor" and the "sensor in turn mounted on the scanning head".

Claims 5 and 17: The "probe mounted to a fixed surface" and the "sample mounted to the force sensor and further mounted to the scanning head". No new matter should be entered.

In response, Applicant has revised drawing Fig. 2 and added drawing Figs. 2A, 2B and 2C showing the different claimed relationships between the force sensor, scanning head, sample, and probe pointed out by the Examiner. Accordingly, Applicant believes that the above objection to the drawings under 37 C.F.R. §1.83(a) have been overcome and should be withdrawn.

The Examiner objected to the specification stating that it did not include certain reference signs shown in the drawings. Specifically, the Examiner stated, "the following reference signs are not mentioned in the description: Numeral '27', figure 1. Correction is required."

As previously described, Applicant has changed numeral "27" (which was mislabeled) in Fig. 1 to numeral 24. With this correction, Applicant believes that the Examiner's above objection to the specification under 37 C.F.R. §1.84(f) has been overcome and

should be withdrawn.

The Examiner objected to the Abstract of the Disclosure stating: "The phrase 'is disclosed' appears in the abstract. Correction is required. See M.P.E.P. §608.01(b)." In response, Applicant has deleted the phrase "is disclosed" from the Abstract of the Disclosure. With this deletion, Applicant believes the Examiner's above objection to the Abstract of the Disclosure has been overcome and should be withdrawn.

The Examiner objected to claims 8, 11, 12, 28, 31, and 32 based on informalities. Specifically, the Examiner rejected claims 8 and 28 stating, "The verb --are-- should be inserted between 'patterns' and 'coincidentally'." In response, Applicant has inserted the verb --are-- between "patterns" and "coincidentally" within claims 8 and 28. Applicant requests that the Examiner's above objections to claims 8 and 28 are respectfully withdrawn.

The Examiner objected to claims 11, 12, 31 and 32 stating, "The phrase 'pick-up' should be rewritten as --pickup-- to maintain consistency with claims 1 and 25. Appropriate correction is required." In response, Applicant has elected to rewrite the term "pickup" as --pick-up-- in claims 1 and 25 to maintain consistency. Accordingly, Applicant requests that the above objection to claims 11, 12, 31 and 32 be respectfully withdrawn.

The Examiner rejected claims 1-6, 13-18, 25, 26, 29, 33 and 34 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the

Examiner made the following rejections, each of which will be addressed individually.

The Examiner rejected claim 1 stating, "The phrase 'said piezo actuated head' lacks antecedent basis. Applicant has amended claim 1, lines 34 and 35 to recite "said scanning head" to correct the antecedent basis error. With this response, Applicant believes the above rejection to independent claim 1 under 35 U.S.C. §112, second paragraph is overcome and should be withdrawn.

The Examiner rejected claims 1-5, 13-17, 25 and 33 stating, "Is the '3-D piezo actuator 58' the same device as the 'scanning head' or the 'piezo actuated head'?" As indicated in independent claim 1 and dependent claims 3, 4, 5, independent claim 13, and dependent claims 15, 16, and 17, the present invention includes a scanning head. As indicated in claim 2, 14, 25 and 33, the scanning head of the present invention may include a piezo actuated head. As also indicated in the specification, page 35, other types of scanning heads are contemplated while still remaining within the scope of the present invention. Applicant has amended the specification, changing 3-D piezo actuator 58 to scanning head 58. Additionally, Applicant has changed the specification on page 29, line 15, to recite "A scanning head 58 (a piezo actuated head in the illustrated embodiment) has the probe mounted thereon. In other embodiments, the scanning head 58 may include a 3-D piezo actuator". Proposed Fig. 2, 2A, 2B and 2C have been labeled accordingly. With this clarification, Applicant has cleared up the above questioned terminology regarding independent claims 1, 13,

and 25 and corresponding dependent claims 2-5, 14-17, and 33 and requests that the Examiner's above rejection under 35 U.S.C. §112, second paragraph be withdrawn.

The Examiner rejected claims 4 and 16 under 35 U.S.C. §112, stating, "The phrase 'said sensor' lacks antecedent basis." With this amendment claims 4 and 16 now recited "said force sensor" to correct the antecedent basis error. With this correction, Applicant requests that the Examiner's above rejection to claims 4 and 16 under 35 U.S.C. §112, second paragraph be withdrawn.

The Examiner rejected claims 6, 18, 26 and 34 stating, "To what is the 'output signal of the force sensor converted'?" Applicant has amended claims 6, 18, 26 and 34 to recite "said output signal to a signal representative of the force during an indentation test". Applicant requests that the Examiner's above rejection of dependent claims 6, 18, 26 and 34 under 35 U.S.C. §112, second paragraph has been overcome and should be withdrawn.

The Examiner rejected claim 13, lines 14 and 43, stating, "The phrase 'said sensor element' lacks antecedent basis." Claim 13, lines 14 and 43 have been amended to recite "said force sensor". With this Amendment, Applicant believes that the Examiner's above rejection of claim 13 under 35 U.S.C. §112, second paragraph, has been overcome and should be withdrawn.

The Examiner rejected claim 13, lines 54 and 55, stating, "The phrase 'said piezo actuated head' lacks antecedent basis." As previously stated, Applicant has amended claim 13, lines 54 and 55 to recite "said scanning head". With this Amendment, Applicant

believes the Examiner's above rejection of independent claim 13 under 35 U.S.C. §112, second paragraph has been overcome and should be withdrawn.

The Examiner rejected claim 25 line 34, stating, "The phrase 'said central portion' lacks antecedent basis." Applicant has amended claim 25, line 34 to recite "said central plate". With this Amendment, Applicant believes the Examiner's above rejection of independent claim 25, line 34 under 35 U.S.C. §112, second paragraph for lack of antecedent basis has been overcome and should be withdrawn.

The Examiner rejected claim 29, stating "The phrase 'said second drive plate' lacks antecedent basis." Applicant has amended claim 29 to recite, "the opposing conductive surface of the second of said drive plates". With this Amendment, Applicant believes the Examiner's above rejection of dependent claim 29 under 35 U.S.C. §112, second paragraph for lack of antecedent basis has been overcome and should be withdrawn.

The Examiner rejected claim 33, lines 14 and 43, stating "The phrase 'said sensor element' lacks antecedent basis." Applicant has amended claim 33, lines 14 and 43 to recite "said force sensor". With this Amendment, Applicant believes the Examiner's above rejection of independent claim 33, lines 14 and 43 under 35 U.S.C. §112, second paragraph for lack of antecedent basis has been overcome and should be withdrawn.

New claim 41 recites an improvement which comprises a high precision sensor including means for transmitting force from a

point remote from said pick-up plate to said pick-up plate and means responsive to the position of the pick-up plate relative to the drive plates for providing an output signal proportional to said relative position. Applicant believes that the cited references do not teach this improvement, and that independent claim 41 is in allowable form.

The Examiner has stated that claims 1-40 would be allowable if rewritten or amended to overcome the rejection under 35 U.S.C. §112. In light of the above response, it is believed that independent claims 1, 13, 25, 33 and 41 and the claims that depend therefrom define over the art of record including the Supplemental Information Disclosure Statement filed March 15, 1995. Accordingly, reconsideration of the above rejections and the issuance of a notice of allowance is respectfully requested.

Respectfully submitted,

Wayne A. Bonin

By his attorney,

Dated: July 20, 1995

Steven E. Dicke
Steven E. Dicke
Reg. No. 38,431
NAWROCKI, ROONEY & SIVERTSON, P.A.
Suite 401, Broadway Place East
3433 Broadway Street Northeast
Minneapolis, MN 55413
Telephone: (612) 331-1464
Facsimile: (612) 331-2239

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service on the date shown below with sufficient postage so that it will reach its addressee addressed to the

United States Patent and Trademark Office
Mailing Unit
on the 20 day of July, 1995
NAWROCKI, ROONEY & SIVERTSON P.A.
By: Steven E. Dicke

Fig. 1

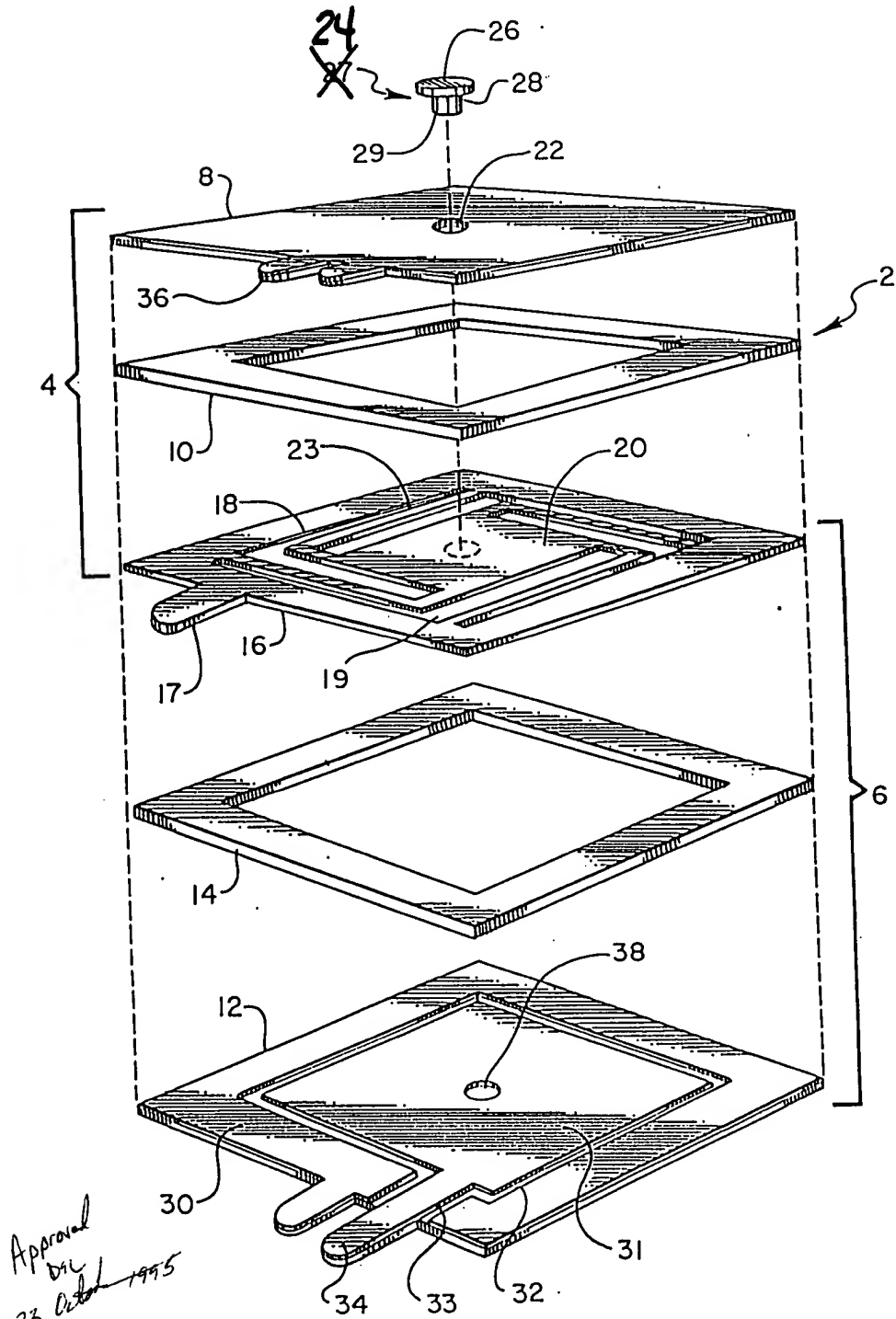


Fig. 2

